

**REMARKS**

Claims 1-17 are pending in this application of which claims 12-13 have been withdrawn. By this Amendment, claims 1, 8 and 11 are amended and claims 15-17 are added. No new matter is added.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Poon during the June 12, 2007 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

**I. Allowable Claims**

The Office Action does not reject claims 11 and 14 over the applied references. During the personal interview, Examiner Poon affirmed that the claims not rejected over any applied references are allowable.

By this Amendment, claim 11 is amended to overcome the rejections under 35 U.S.C. §112 and to be independent, including all of the features of prior base claims 1 and 6. Thus, withdrawn claims 12-13 should be rejoined and claims 11-14 should be allowed.

**II. Objection to the Drawings**

The Office Action objects to the drawings under 37 C.F.R. 1.83(c). The Office Action appears to quote claim 11 in its entirety.

By this Amendment, claim 11 is amended to recite that the image signal input unit, the first optical signal output unit, and the second optical signal output unit, together with the optical signal input unit, each comprises a communication request circuit communicatively coupled to the arbitrating part (not arbitrating parts as recited by the Office Action).

Fig. 8, for example, shows that functional circuits 12A-12D each have a corresponding signal converting circuit 40A-40D connected to an arbitrating circuit 42. Figs. 9-11 show that the signal converting circuit 40 comprises a communication requesting circuit connected to the arbitrating circuit 42. Because the image signal input unit, the first optical

signal output unit, and the combination of the second optical signal output unit together with the optical signal input unit, each correspond, for example, to one of the functional units 12A-12D of Fig. 8, the features of claim 11 are already depicted in the drawings.

Applicants request withdrawal of the objection.

### **III. Claim Rejections under 35 U.S.C. §112**

#### **A. 35 U.S.C. §112, first paragraph**

The Office Action rejects claims 11 and 14 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. Specifically, the Office Action appears to allege that claim 11 is not supported. Further, the Office Action alleges that each functional unit only has one communication request circuit and asserts that this does not support claim 11's recitation that both the second optical signal output unit and the optical signal input unit each have a communication request circuit. Applicants respectfully traverse the rejection.

By this Amendment, claim 11 is amended to recite that the second optical signal output unit, together with the optical signal input unit, comprises a communication request circuit. Thus, the features of claim 11 are shown in the figures, as discussed above, and are additionally supported as disclosed in the accompanying parts of the specification.

For the foregoing reasons, Applicants request withdrawal of the rejection.

#### **B. 35 U.S.C. §112, second paragraph**

The Office Action rejects claims 1-11 and 14 under 35 U.S.C. §112, second paragraph, for being indefinite.

The Office Action rejects claim 1 and alleges it is unclear to what "second optical signal input unit" in line 12 refers. By this Amendment, this feature is amended to "optical signal input unit".

The Office Action further alleges that "the claims is [sic] referring to a single unit with different names in the claim". The Office Action indicates that units with different names will be treated as being treated as two entities and states that "second optical signal output unit" and "optical signal input unit" are being treated as two different units.

As agreed during the personal interview, the amendment to claim 1 overcomes the rejection.

Applicants request withdrawal of the rejection.

#### **IV. Claim Rejections under 35 U.S.C. §103**

The Office Action (i) rejects claims 1-2, 6 and 8-10 under 35 U.S.C. §103(a) over U.S. Patent No. 5,872,869 to Shimizu et al. (Shimizu) in view of U.S. Patent No. 5,077,817 to Shang; (ii) rejects claims 4-5 and 7 under 35 U.S.C. §103(a) over Shimizu in view of Shang, and further in view of U.S. Patent No. 5,822,475 to Hirota et al. (Hirota); and (iii) rejects claim 3 under 35 U.S.C. §103(a) over Shimizu in view of Shang, and further in view of U.S. Patent No. 6,295,148 to Atlas. Applicants respectfully traverse the rejections.

By this Amendment, independent claim 1 is amended to recite that the image output unit and image signal input unit are disposed in a first housing; that the first functional unit and the first optical signal output unit are disposed in a second housing; and that the second functional unit, second optical signal output unit, and optical signal input unit are disposed in a third housing.

Thus, regarding independent claim 1, Shimizu fails to disclose (1) "an image output unit that has an image signal input unit capable of receiving an optical signal, and outputs an image according to an optical signal inputted from the image signal input unit, the image output unit and the image signal input unit being disposed within a first housing"; and (2) "a first functional unit that has a first optical signal output unit capable of outputting an optical signal and outputs the optical signal according to a first function through the first optical

signal output unit, the first functional unit and the first optical signal output unit being disposed within a second housing."

Shimizu discloses an image forming apparatus / system (unnumbered) that comprises an image information generating unit 1, a reader unit 500, and a printer unit 600 (Fig. 1; col. 3, lines 22-34). The image information generating unit 1 connects to the reader unit 500 by a signal line 501 and to the printer unit 600 by a signal line 601 (Fig. 1). Shimizu discloses that multiple separate image forming apparatus / systems can be interconnected by optical fiber cables 700 (Fig. 1; col. 3, lines 47-53). To this end, the image information generating unit 1 comprises an optical fiber interface 70 that connects to the optical fiber cables 700 (Fig. 1; col. 3, lines 47-53).

Shimizu fails to disclose feature (1) discussed above because Shimizu's optical fiber interface 70 is contained in image information generating unit 1, not in printer unit 600.

Shimizu fails to disclose feature (2) discussed above because Shimizu's optical fiber interface 70 is contained in image information generating unit 1, not in reader unit 500.

Regarding dependent claim 8, Shimizu fails to disclose that (1) the claimed first functional unit is an image reading unit; and (2) the claimed image output unit is a printer. As agreed at the personal interview, Shimizu does not disclose these features.

For the foregoing reasons, Applicants request withdrawal of the rejections.

## **V. New Claims**

Shimizu additionally fails to disclose the features of new dependent claim 15 because Shimizu's printer 600 and reader unit 500 are not in the same housing as image information generating unit 1.

New claim 16 corresponds to prior claim 1, and further recites that the image input unit is an image reading device and the image output unit is a printer. Thus, independent

claim 16 contains features that were agreed to be allowable during the personal interview, as discussed above. Thus, claims 16-17 are patentable over Shimizu and should be allowed.

**VI. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance to the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Jonathan H. Backenstose  
Registration No. 47,399

JAO:JHB/ccs

Date: July 2, 2007

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--